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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of )  
Steven J. Wygant ) Group: 3641  
Serial No.: 10/789,078 )  
Filed: February 27, 2004 ) Examiner: T. Chambers  
Title: PNEUMATIC SHOOTING DEVICE )

LETTER

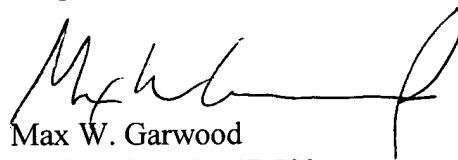
MS Appeal Brief-Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Enclosed herewith, is the Appeal Brief Of Appellant in the above-identified patent application. The \$250.00 fee is enclosed.

In the event Applicant has overlooked the need for an extension of time, an additional extension of time, payment of fee, or additional payment of fee, Applicant hereby conditionally petitions therefor and authorizes that any charges be made to Deposit Account No. 20-0095, TAYLOR & AUST, P.C.

Respectfully submitted,

  
Max W. Garwood  
Registration No. 47,589  
Attorney for Applicant

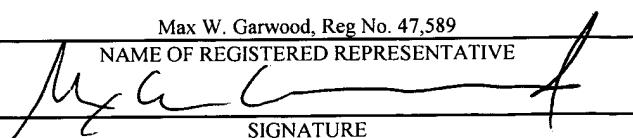
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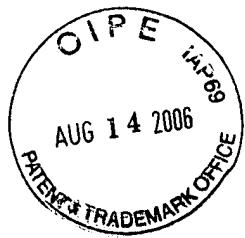
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**APPEAL BRIEF OF APPELLANT**

MS Appeal Brief-Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This appeal is taken from the decision of the Examiner, dated March 15, 2006, finally rejecting claims 1-15, 17, 18 and 20-22, all of the claims that are under consideration in the above-captioned patent application. In response to the final Office Action, Appellant filed a Pre-Appeal Brief Request for Review dated May 15, 2006, in which Appellant requested a review of the final rejection by way of the pre-appeal process. A Notice of Panel Decision from the Pre-Appeal Brief Review was dated July 11, 2006 and contained an indication that claims 1-5, 17, 18 and 20-22 stand rejected. Appellant timely filed a Notice of Appeal in this matter on May 15, 2006. The present Appeal Brief is being filed prior to one month following the mailing of the Notice of the Panel Decision, that results in a period for response set to expire on August 11, 2006.

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**I. REAL PARTY IN INTEREST**

The real party in interest in this appeal is Blackpoint Engineering, LLC, a corporation organized and existing under the laws of the State of Indiana, which owns the entire interest in this patent application as set forth in the underlying claimed invention.

**II. RELATED APPEALS AND INTERFERENCES**

No related Appeals or Interferences are known to the Appellant.

**III. STATUS OF CLAIMS**

Pending: 1-15, 17, 18 and 20-22.

Canceled: 16, 19 and 23.

Allowed: None.

Objected To: None.

Rejected: 1-15, 17, 18 and 20-22.

Withdrawn from Consideration: None.

On Appeal: 1-15, 17, 18 and 20-22.

A clean copy of claims 1-15, 17, 18 and 20-22, all the claims under appeal, is included as an Appendix to this brief.

**IV. STATUS OF AMENDMENTS**

No amendment was filed in this case subsequent to the final rejection.

## **V. SUMMARY OF CLAIMED SUBJECT MATTER**

The present invention relates generally to a shooting device, and more particularly to a pneumatic shooting device.

Independent claim 1 follows with reference numbers having been inserted. The numbers refer to elements in the drawings.

1. A pneumatic shooting device (10), comprising:  
a barrel (12); and  
an action (14) including a housing (16) defining a pressure reservoir (18) with a discharge outlet (20) connected to and approximately collinear with said barrel (12), a linear bearing body (22) coupled with said housing (16), and a piston (24) having a discharge end (26), said piston (24) being slidably movable within said linear bearing body (22) to selectively open and close said discharge outlet (20).

Independent claim 21 follows with reference numbers having been inserted. The numbers refer to elements in the drawings.

21. An action (14) for use in a pneumatic shooting device (10) which has a Barrel (12), said action (14) comprising:  
a housing (16) defining a pressure reservoir (18) with a discharge outlet (20) configured to be approximately collinear with the barrel (12);  
a linear bearing body (22) coupled with said housing (16); and  
a piston (24) having a discharge end (26), said piston (24) being slidably movable within said linear bearing body (22) to selectively open and close said discharge outlet (20).

Summary of the elements of the Foregoing Claims

Referring now to the drawings, and more particularly to Fig. 1, there is shown a pneumatic shooting device 10 including a barrel 12 and an action 14 (Page 5, lines 4-5).

Action 14 includes housing 16 defining a pressure reservoir 18 with a discharge outlet 20 connected to barrel 12. A linear bearing body 22 is coupled with housing 16. Action 14 further includes piston 24 with a discharge end 26. Piston 24 is slidably movable within linear bearing body 22 to selectively open and close discharge outlet 20 (Page 5, lines 6-9).

Linear bearing body 22 can be at least partially defined by and/or attached to pressure reservoir 18 (Page 5, lines 10-11).

Piston 24 can include an actuating end 28, and housing 16 can include an actuating reservoir 30, actuating end 28 is at least partially located within actuating reservoir 30. Resilient member 38 biases discharge end 26 of piston 24 against discharge outlet 20 to allow the pressurization of pressure reservoir 18. When trigger 34 is actuated to close firing valve 36 (Fig. 3) actuating reservoir 30 is pressurized to force actuating end 28 to oppose resilient member 38 thereby opening discharge outlet 20 and releasing the pressure 84 in pressure reservoir 18 through discharge outlet 20 and into barrel 12 to propel projectile 40 through and out of barrel 12 (Page 5, lines 12-23).

Discharge end 26 includes a taper 54 to improve the explosive release of the pressurized gas into discharge outlet 20 and barrel 12. A radial seal 56 provides a pneumatic seal when piston 24 closes discharge outlet 20 (Page 6, lines 8-13).

Discharge outlet 20 has a discharge outlet diameter 72. Barrel 12 has a barrel diameter 74. A ratio of discharge outlet diameter 72 to barrel diameter 74 is greater than 0.1. This relatively large ratio provides for an explosive release of high pressure, accompanied by an explosive sound, which is both capable of propelling larger projectiles and providing realistic weapon sound.

Discharge outlet 20 can be an abrupt pneumatic orifice 76 which can further enhance the explosive sound at firing. (Page 7, lines 11-16)

As shown in Fig. 5, pneumatic shooting device 80 can be a grenade launcher demonstrating the scalable nature of action 14. The pneumatic shooting device of the present invention can be a bazooka, a grenade launcher, a mortar, a rocket launcher, a cannon, a rocket propelled grenade launcher, a missile launcher, a landmine and/ or a gun further demonstrating the scalable nature of action 14. (Page 7, lines 17-21)

Although piston 24 is shown as being pneumatically actuated, piston 24 can be at least pneumatically actuated, electrically actuated, magnetically actuated, electro-magnetically actuated and/or chemically actuated. An example of chemical actuation is the trigger impacting a pyrotechnic firing cap, firing the cap creating a firing pressure, which firing pressure actuates the piston. (Page 7, line 23 through page 8, line 5)

The pneumatic shooting device of the present invention can be used with a variety of projectiles. For example, projectile 40 is shown as a ball, projectile 70 is shown as a rocket or bazooka round and projectile 82 is shown as a grenade. The pneumatic shooting device of the present invention can use a projectile which is a fluid, a powder, a fragment, a rocket, confetti, a shot, a bazooka round, a mortar round, a missile, a ball, a bullet, a grenade and/or a cannon shell. (Page 8, lines 19-24)

In use, pneumatic shooting device 10 is connected to pressurized gas source 32 which pressurizes pressure reservoir 18 of action 14. A projectile is loaded into barrel 12 of pneumatic shooting device 10. Trigger 34 of pneumatic shooting device 10 is actuated. Piston 24 is moved within linear bearing body 22 of action 14. Piston 24 is released from discharge outlet 20 in housing 16. A volume of a pressurized gas 84 is expelled through barrel 12 thereby ejecting a projectile. (Page 9, lines 1-6)

**VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

1. Whether claims 1-5, 7-9, 12-14, 17, 18 and 20-22 are anticipated under 35 U.S.C. § 102(b) over U.S. Patent No. 5,769,066 (Schneider).
2. Whether claim 6 is unpatentable under 35 U.S.C. § 103(a) over Schneider in view of U.S. Patent Application Publication US2004/0200466 (Salva).
3. Whether claims 10, 11 and 15 are unpatentable under 35 U.S.C. § 103(a) over Schneider.

## **VII. ARGUMENT**

### **1. Rejection of claims 1-5, 7-9, 12-14, 17, 18 and 20-22 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,769,066 (Schneider), which Appellant considers to be patentable.**

In the final Office Action dated March 15, 2006, claims 1-5, 7-9, 12-14, 17, 18 and 20-22 were rejected under 35 U.S.C. § 102(b) as being unpatentable over Schneider. However, Appellant submits that claims 1-5, 7-9, 12-14, 17, 18 and 20-22 are neither taught, disclosed nor suggested by the cited references, alone or in combination, and are therefore in condition for allowance.

#### **A. The Teachings of the Cited References**

Schneider discloses an air control housing assembly 10 (Figs. 6 and 22), which includes a housing 12 having a substantially cylindrical bore 102 (column 3, lines 20-26). A control sleeve 16 includes a cylindrical longitudinal bore 21 therethrough and radially extending evenly spaced ports 18. A stationary air piston sleeve 32 (Figs. 1, 16, 17 and 22-24) includes a cylindrical bore 37 formed therethrough and an o-ring groove 35 (column 3, line 56 through column 4, line 8). At the instant of firing (Fig. 23), air is reservoir 109, which has previously been charged with pressurized gas equal in pressure to that of a line pressure entering into inlet 104 is vented into radially vents 26 of air control spool 20, which momentarily aligns with radial vents 18 of air control spool 16, and in this position, longitudinal bore 21, which was previously sealed, receives the entire accumulated gas charge within gas reservoir 109, along with the pressurized gas available at inlet 104 from the pressurized gas source. This entire pressurized gas charge is forced against the ball projectile B1 to propel it from barrel 72 (column 5, lines 44-59).

#### **B. Claim 1 is patentable over the cited reference.**

In contrast to the teaching of Schneider, claim 1 of the present application recites in part:

an action including a housing defining a pressure reservoir with a discharge outlet connected to and approximately collinear with said barrel ...

(Emphasis added). Appellant submits that such an invention is neither taught, disclosed nor suggested by Schneider, or any of the other cited references, alone or in combination, and includes distinct advantages thereover.

Schneider discloses radial vents of the air control spool which momentarily align with the radial vents of another air control spool, and in this position, the longitudinal bore receives the entire accumulated gas charge within gas reservoir. The circuitous route of the radial vents, is simply not the structure claimed by the present invention, and while sufficient for a paintball application as shown in Schneider, it provides resistance to gas flow and therefore restricts gas flow, and cannot be used in the present invention as there would not be sufficient impacting gas flow to propel a relatively large projectile as is disclosed in the present invention. Schneider, and the other cited references, fail to teach, disclose or suggest an action including a housing defining a pressure reservoir with a discharge outlet approximately collinear with the barrel. With a discharge outlet approximately collinear with the barrel, and the relatively large size of the discharge outlet, the present invention can exhaust the pressure reservoir nearly instantaneously to propel the large projectile, without incurring the resistance to flow and resultant energy losses of the radial vents of Schneider.

Further, the Examiner has arbitrarily indicated that Schneider includes a discharge outlet which is actually the barrel opening, and thereby has ignored the limitation of "a pressure reservoir with a discharge outlet approximately collinear with said barrel". A "reservoir" is commonly understood to be a receptacle or chamber for storing a fluid (*The American Heritage*

*Dictionary of the English Language*, Houghton Mifflin, 1978). The barrel of Schneider never stores a fluid, and therefore, is never a reservoir. Therefore, Schneider fails to disclose or suggest a pressure reservoir with a discharge outlet approximately collinear with the barrel

Claim 1 further recites:

a linear bearing body coupled with said housing, and a piston having a discharge end, said piston being slidably movable within said linear bearing body to selectively open and close said discharge outlet..

In contrast, the barrel opening of Schneider constantly remains open, and a discharge occurs when the radial vents of the control spools are aligned.

In order to anticipate a claim, the elements of the reference must be arranged as required by the claim (MPEP 2131), and the elements of Schneider are not arranged as claimed by the present invention; therefore Schneider does not anticipate the present invention. Additionally, to anticipate a claim, the reference must teach every element of the claim (MPEP 2131), and at least the claim limitations discussed above are not taught by Schneider. Therefore Schneider does not anticipate the present invention.

An advantage to the present invention is that the discharge outlet is approximately collinear with the barrel to thereby allow a discharge of a large amount of high pressure air quickly to propel a large projectile.

### **C. Claim 21 is patentable over the cited reference.**

Similar to Claim 1, discussed above, Claim 21 as amended recites in part:

An action for use in a pneumatic shooting device which has a barrel, said action comprising: a housing defining a pressure reservoir with a discharge outlet configured to be approximately collinear with the barrel ...

(Emphasis added). For all of the reasons given above with regard to Claim 1, Appellant submits that Claim 21, and Claim 22 depending therefrom, are now in condition for allowance, which is

hereby respectfully requested.

For all of the foregoing reasons, Appellant submits that claims 1-5, 7-9, 12-14, 17, 18 and 20-22 are in condition for allowance, which is hereby respectfully requested.

2. **Rejection of claim 6 under 35 U.S.C. § 103(a) as being obvious over Schneider in view of U.S. Patent Application Publication US2004/0200466 (Salva), which the Appellant considers to be patentable.**

In the final Office Action dated March 15, 2006, claim 6 was rejected under 35 U.S.C. § 103(a) as being obvious over Schneider in view of Salva. However, Appellant respectfully submits that claim 6 depends from claim 1, which is distinguished from the prior art. Therefore, any dependent claim, including claim 6 is also distinguished from the prior art.

For all of the foregoing reasons, Appellant submits that claim 6 is in condition for allowance, which is hereby respectfully requested.

3. **Rejection of claims 10, 11 and 15 under 35 U.S.C. § 103(a) as being unpatentable over Schneider, which Appellant considers to be patentable.**

In the final Office Action dated March 15, 2006, claims 10, 11 and 15 were rejected under 35 U.S.C. § 103(a) as being obvious over Schneider. However, Appellant respectfully submits that claims 10, 11 and 15 depend from claim 1, which is distinguished from the prior art as described above. Therefore, any dependent claims, including claims 10, 11 and 15, are also distinguished from the prior art.

For all of the foregoing reasons, Appellant submits that claims 10, 11 and 15 are in condition for allowance, which is hereby respectfully requested.

For the foregoing reasons, Appellant submits that claims 1-5, 7-9, 12-14, 17, 18 and 20-22 are neither taught nor suggested by the cited references, alone or in combination, and claims 1-5, 7-9, 12-14, 17, 18 and 20-22 are therefore in condition for allowance in their present form. Accordingly, Appellant respectfully requests the Board to reverse the final rejections of the appealed claims.

Respectfully submitted,



Max W. Garwood  
Registration No. 47,589  
Attorney for Appellant

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CERTIFICATE OF MAILING

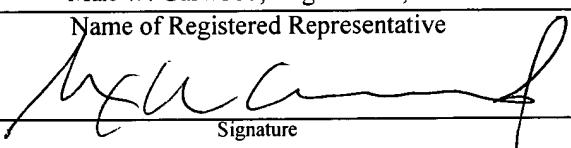
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Max W. Garwood, Reg. No. 47,589

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Name of Registered Representative



Signature

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August 10, 2006

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### **VIII. CLAIMS APPENDIX**

1. (Previously Presented) A pneumatic shooting device, comprising:
  - a barrel; and
  - an action including a housing defining a pressure reservoir with a discharge outlet connected to and approximately collinear with said barrel, a linear bearing body coupled with said housing, and a piston having a discharge end, said piston being slidably movable within said linear bearing body to selectively open and close said discharge outlet.
2. (Original) The pneumatic shooting device of claim 1, wherein said piston includes an actuating end, said housing includes an actuating reservoir, said actuating end at least partially located within said actuating reservoir.
3. (Original) The pneumatic shooting device of claim 2, further including a pressurized gas source pneumatically connected to both said pressure reservoir and said actuating reservoir.
4. (Original) The pneumatic shooting device of claim 2, further including a supply fitting pneumatically connected to said pressure reservoir, an actuator fitting pneumatically connected to said actuating reservoir and a slip ring connected to both said supply fitting and said actuator fitting, said slip ring for a proper positioning of said supply fitting and said actuator fitting.
5. (Original) The pneumatic shooting device of claim 2, further including an end cap pneumatically connected to said actuating reservoir, said end cap having an exhaust vent connected to an ambient.

6. (Previously Presented) The pneumatic shooting device of claim 2, further including a pressurized gas source, a trigger being located pneumatically between said pressurized gas source and said actuating reservoir.

7. (Original) The pneumatic shooting device of claim 1, wherein said discharge end includes a radial seal.

8. (Original) The pneumatic shooting device of claim 1, wherein said pressure reservoir includes a barrel interface, said discharge opening located at said barrel interface, said barrel interface includes a face seal.

9. (Original) The pneumatic shooting device of claim 1, further including a pressurized gas source pneumatically connected to said pressure reservoir, a regulator pneumatically connected to said pressurized gas source and a tubing from said regulator to said pressure reservoir.

10. (Original) The pneumatic shooting device of claim 9, wherein said tubing has a burst pressure and said pressure reservoir has a pressure rating, a ratio of said burst pressure to said pressure rating is no more than 0.5.

11. (Original) The pneumatic shooting device of claim 1, wherein said pressure reservoir has both a pressure rating and an operating pressure, a ratio of said operating pressure to said pressure rating is no more than 0.5.

12. (Original) The pneumatic shooting device of claim 1, further including a pressure relief valve between said pressure reservoir and an ambient.

13. (Original) The pneumatic shooting device of claim 1, further including a breech associated with said barrel, said pneumatic shooting device being loaded with a projectile at said breech.

14. (Original) The pneumatic shooting device of claim 1, wherein said pressure reservoir is operated at a pressure of no more than 200 psi.

15. (Original) The pneumatic shooting device of claim 1, wherein said discharge outlet has a discharge outlet diameter, said barrel has a barrel diameter, a ratio of said discharge outlet diameter to said barrel diameter is greater than 0.1.

17. (Original) The pneumatic shooting device of claim 1, wherein said barrel and said housing are one of monolithic and separate.

18. (Previously Presented) The pneumatic shooting device of claim 1, wherein said piston includes an actuating end, said piston is pneumatically actuated.

20. (Original) The pneumatic shooting device of claim 1, wherein said linear bearing body is one of defined by and attached to said pressure reservoir

21. (Previously Presented) An action for use in a pneumatic shooting device which has a

barrel, said action comprising:

a housing defining a pressure reservoir with a discharge outlet configured to be approximately collinear with the barrel;

a linear bearing body coupled with said housing; and

a piston having a discharge end, said piston being slidably movable within said linear bearing body to selectively open and close said discharge outlet.

22. (Original) The piston valve of claim 21, wherein said piston includes an actuating end, said housing includes an actuating reservoir, said actuating end at least partially located within said actuating reservoir.

**IX. EVIDENCE APPENDIX**

No additional evidence is being provided by the Appellant at this time.

**RELATED PROCEEDINGS APPENDIX**

No related proceedings are known to the Appellant.